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Décor Paper

Innovative paper applications include the increasing use of décor paper these days.

Décor paper is special paper for laminating chipboard surfaces in the furniture and construction industry. Décor paper is rotogravure color printed with a wide range of imitation wood graining, masonry textures or other patterns. Later the paper is impregnated with resin and pressed onto the chipboard surface.

For this application the paper requires special and precise characteristics: dimensional stability with good ink absorption at the same time, uniform resin penetration and excellent printability. High opacity for adequate covering of the base material is also required.

High smoothness on the paper surface with soft on-line calendering through soft calender or multi-nip calender is necessary to achieve excellent printability.

Due to the high amount of resins for wet strength, the paper leaves the dryer section bone dry. Remoisturization of the paper is absolutely necessary to obtain the required surface and print qualities with calendering.

Traditional papermakers used to use spray systems where a fine spraymist was applied on both sides of the paper, to achieve a moisture value of 2 - 3% before entering the calender. The significant formation of décor paper, high freeness and especially ash content of 50%, prevent a higher value of remoisturization with spray systems.

Nowadays papermakers do not use spray systems any more, and remoisturization is only performed with steam.

By doing so, the paper and the machines must fulfil a number of criteria. The temperature of the paper leaving the dryer section should be at a level of 40 °C, so it is absolutely necessary to operate two cooling cylinders at the end of the dryer section. On a physical base the cold paper guarantees the highest value in remoisturizing. Two major points must be considered in steam remoisturizing. The distribution of the steam has to be uniform on the surface of the sheet and must be absolutely drip-free.

The VIB MoistureTech is a versatile system for remoisturizing and raising the temperature of sensitive paper, and was especially developed to fulfil the criteria.

Controllable zones for the steam application guarantee uniform smoothness and gloss profiles of the paper surface, and it operates 100% drip-free. The additional dwell zones ensure the highest efficiency for remoisturizing. Additional moisture of 3% upstream of the calender can be obtained easily.

Design criteria allow VIB to install the VIB MoistureTech between the dryer section and the calender in vertical or horizontal positions. The VIB MoistureTech is not only used for décor paper, but also for remoisturizing and curl control on laminated grades and silicated papers.